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## EC1442 Revised 1959 Light the Way to Poultry Profits

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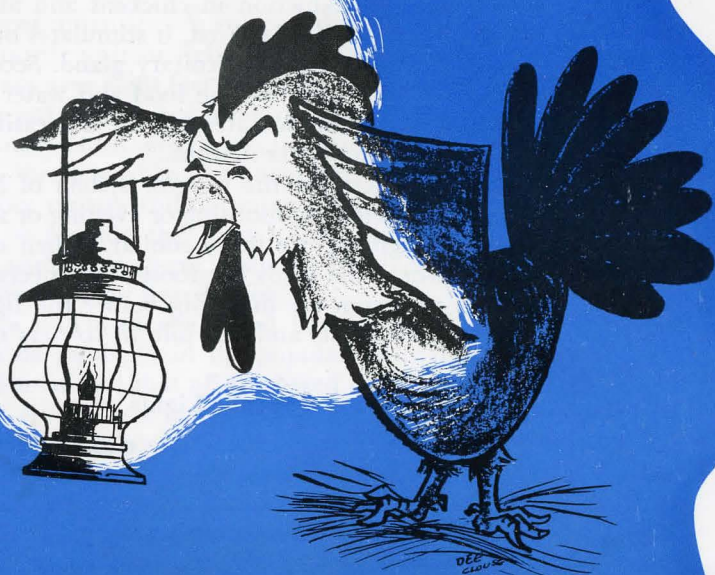
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# LIGHT THE WAY to poultry profits



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## ***LIGHT THE WAY TO POULTRY PROFITS***

Light stimulates egg production in chickens and all other birds. Light serves the hen in three ways. First, it stimulates or activates the endocrine system by acting on the pituitary gland. Second, light enables the hen to find and consume the food and water necessary for egg production. Third, it compensates for the decreasing amount of natural daylight during the winter months.

Convenience will determine the time or system of lighting to be used. The results obtained from morning or evening or a combination of the two times of lighting are quite similar. When evening lights are used in a pen where the birds use roosts, it is necessary to equip the system with a provision for dimming before the lights go off so that all birds may find roosts and not pile in corners or near pieces of equipment.

### **Control of the Lights**

A simple time clock or switch of single circuit design can be installed in the poultry house to control a single period of lighting such as morning lights. A time clock of double circuit design or one equipped with a dimming circuit is necessary where both morning and evening lighting is planned. These switches are reasonable in price (\$10 to \$20), easy to install and will last for several years under normal conditions. Important things to keep in mind with regard to the operation of time clocks are:

1. Each time the current is off for any reason, the clock must be reset to the time of day.
2. The setting must be checked every two or three days to make sure that the setting plus the hours of natural daylight add up to the amount that you wish your birds to have.
3. The clock should be checked frequently to make sure the current has not been interrupted during the night or at some other time.

An electric eye device may be installed along with the time switch. This will turn off the lights as early in the morning as sufficient light from the sun is present in the house. It will also turn the lights on



during cloudy or dark days when inadequate light is present in the house. These devices, costing from \$25 to \$30 each, are reported to increase egg production as well as reduce the amount of electricity used.

The most effective and economical system of lighting will provide a wide and even distribution of light throughout the house rather than a great concentration or intensity in one area and a dim light in others. To get maximum benefits from lights, they should be:

1. Clean

2. Provided with wide-angle reflectors where conventional light bulbs are used. (These also must be clean.) In event that direct-lite bulbs are used, reflectors can be eliminated as these units have a reflector incorporated into the base of the bulb as a feature of their design.

3. Of proper intensity. A rule of thumb for this is to provide at least one-fourth watt of light per square foot of floor space from bulbs placed not over eight feet above the floor.

4. Economical as to distribution of light. Large bulbs do not offer this. More small bulbs distribute light more effectively and affect the overall picture less when one burns out. 60 to 75 watt bulbs spaced on 10 to 12 foot centers and not more than 10 feet from any wall can be arranged to provide the correct light intensity. In houses more than 20 feet wide, a staggered pattern involving two rows of lights can give a desirable light distribution.

Recently, a system of controlled lighting called "Stimulight" has been given wide publicity in the popular journals. It is based upon the biological principal that all feathered creatures tend to come into production in the face of increasing length of day. Conversely, birds tend to cease production and molt their feathers in the face of decreasing lengths of daylight. So by raising pullets with restricted length of day<sup>1</sup> and progressively increasing the length of day each week after production begins, a situation of perpetual springtime results.

This system of lighting needs further testing before being unconditionally recommended to all growers. It should be kept in mind that such control of lighting requires that replacement pullets be grown in confinement and that their quarters be equipped with a good ventilation system as **no** doors or windows may be allowed to remain open.

### Rules For Lighting

1. Never give birds **more** than 15 hours of maximum intensity lighting per day.

2. Never vary the length of day by more than 15 minutes in any one day.

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<sup>1</sup> Dr. D. F. King, Alabama Polytechnic Institute, suggests six hour days.

3. Never use blue, green or violet (or shades of these colors) for lighting in a poultry house.

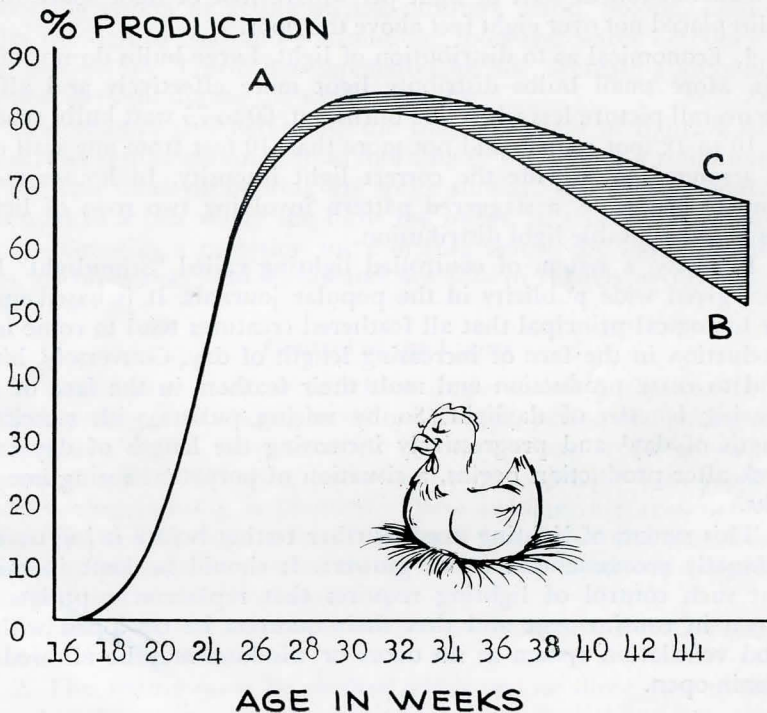
Lights may be used on growing chicks to increase feed consumption and thereby affect growth rate. It is not necessary to maintain as great an intensity as with laying hens. Cannibalism and general nervousness will often result from lighted periods longer than are necessary.

In hot weather, the lighting schedule will be most effective on growing birds if adjusted to include the coolest part of the night.

\* \* \* \*

It is not generally felt that lights are necessary or desirable for pullets being raised for egg production purposes.

The most desirable time to start lights on laying birds is illustrated in the following graph. Individual variations from this are sometimes necessary as in the case of replacement birds going into existing cage operations, etc.



OAB—natural unlighted production cycle (estimated).

A—Point where artificial lights may be considered useful. The natural production pattern indicates a leveling off and that the level of production can be expected to decline unless artificial stimulation is provided for the bird. Lights can provide a large measure of this stimulation.

OAB—A general assumed production pattern that may be raised to more nearly OAC by the proper use of lighting.